03050203-010

(Chinquapin Creek and Lightwood Knot Creek)

General Description

Watershed 03050203-010 is located in Lexington and Aiken Counties and consists primarily of *Chinquapin Creek and Lightwood Knot Creek* and their tributaries. The watershed occupies 50,712 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. The predominant soil types consist of an association of the Lakeland-Blaney-Troup series. The erodibility of the soil (K) averages 0.15; the slope of the terrain averages 7%, with a range of 0-15%. Land use/land cover in the watershed includes: 7.63% urban land, 20.69% agricultural land, 6.48% scrub/shrub land, 0.38% barren land, 62.49% forested land, 1.67% forested wetland (swamp), and 0.66% water.

Chinquapin and Lightwood Knot Creeks join to form the North Fork Edisto River. Chinquapin Creek originates near the Town of Monetta and accepts drainage from Duncan Creek, Horsepen Creek, Mare Creek, Rock Creek, and Shirley Branch before merging with Lightwood Knot Creek. The Town of Batesburg lies near the headwaters of Duncan Creek and uses a small lake associated with the drainage for its water supply. Lightwood Knot Creek flows through several ponds including Abells Millpond and Brodie Millpond, before accepting drainage from Hellhole Creek (Mill Creek, Rocky Ford Creek, Tanker Branch), Marlowe Creek, Thasher Branch, Mill Creek, and Long Branch. There are a total of 74.5 stream miles and numerous small lakes (10-50 acres) in this watershed, all classified FW.

Water Quality

Station	Type	Class	Description
E-091	P	FW	CHINQUAPIN CREEK AT SC 391 5.5 MI S BATESBURG
E-601	BIO	FW	CHINQUAPIN CREEK AT SR 210
E-101	S	FW	LIGHTWOOD KNOT CK OFF S-32-77, AT BATESBURG WTR INTAKE
E-600	BIO	FW	LIGHTWOOD KNOT CK AT UNNAMED RD W OF SR160

***Chinquapin Creek* - There are two monitoring sites along Chinquapin Creek, which was Class B until April, 1992. At the upstream site (E-091), aquatic life uses are fully supported, but there is a significant decreasing trend in pH, a significant increasing trend in total nitrogen concentration, and a very high concentration of lead measured in 1993. A high concentration of copper and a very high concentration of zinc were measured in the 1996 sediment sample, and P,P'DDE and P,P'DDD (metabolites of DDT) were detected. Although the use of DDT was banned in 1973, it is very persistent in the environment. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentrations suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions.**

At the downstream site (E-601), aquatic life uses are fully supported based on macroinvertebrate community data.

***Lightwood Knot Creek* - There are two monitoring sites on Lightwood Knot Creek. At the upstream site (E-101), aquatic life uses are fully supported, but there is a significant increasing trend in five-day biochemical oxygen demand. This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentrations. Although pH excursions were noted, they were typical of values seen in such systems. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. P,P'DDD (a metabolite of DDT) and P,P'DDT were detected in the 1994**

sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions, however a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter. Aquatic life uses are fully supported at the downstream site (E-600) based on macroinvertebrate community data.

A fish consumption advisory has been issued by the Department for mercury and includes the streams within this watershed (see advisory p.31).

Permitted Activities

Point Source Contributions

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)* *COMMENT*	*NPDES#* *TYPE* *LIMITATION*
DUNCAN CREEK TOWN OF BATESBURG PIPE #: 001 FLOW: 2.5 WQL FOR NH3-N, DO, TRC	SC0024465 MAJOR MUNICIPAL WATER QUALITY
DUNCAN CREEK TOWN OF BATESBURG/WTP PIPE #: 001 FLOW: 0.0285	SCG645001 MINOR DOMESTIC EFFLUENT

Camp Facilities

FACILITY NAME/TYPE *RECEIVING STREAM*	*PERMIT #* *STATUS*
CAMP KINARD/RESIDENT LIGHTWOOD KNOT CREEK TRIBUTARY	32-305-0003 ACTIVE
NAZARENE CAMP/RESIDENT CHINQUAPIN TRIBUTARY	32-305-1802 ACTIVE
CHURCH OF GOD PROPHECY/RESIDENT MARLOWE CREEK	32-305-0011 ACTIVE

Landfill Activities

SOLID WASTE LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
LEXINGTON LANDFILL #2 DOMESTIC	DWP-013 CLOSED
TOWN OF BATESBURG-LEESVILLE INDUSTRIAL	IWP-235 ACTIVE

Mining Activities

MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
JB RAWL RAWL-COTTON BRANCH ROAD MINE	0941-32 SAND
WILSON BROTHERS SAND COMPANY, INC. RICARD MINE	0639-32 SAND
WILSON BROTHERS SAND COMPANY, INC. SMITH MINE	0934-32 SAND
WILSON BROTHERS SAND COMPANY, INC. FRICK MINE	0718-32 SAND

Water Supply

WATER USER (TYPE) *WATERBODY*	*REGULATED CAPACITY (MGD)* *PUMPING CAPACITY (MGD)*
TOWN OF BATESBURG (M) LIGHTWOOD KNOT CREEK	2.1 4.3
TOWN OF BATESBURG (M) DUNCAN CREEK	1.2 2.5

Growth Potential

There is a low potential for growth in this rural, undeveloped watershed. The Town of Batesburg/Leesville has the only water and sewer service in the area.